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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,824	01/20/2004	Harold Armstead Hunter JR.		8029

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EXAMINER

KIM, CHONG HWA

ART UNIT PAPER NUMBER

3682

DATE MAILED: 11/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,824

Applicant(s)

HUNTER, HAROLD ARMSTEAD

Examiner

Chong H. Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The Examiner acknowledges the applicant's filing of present invention as being "continuation" of the parent application, 08/967,453, now patented, 5,971,877. However, the present invention was filed, Jan 20, 2004, that is after the issued date of Oct 26, 1999 for the parent application. There is no copendency between the applications. Therefore, the present invention does not meet the requirement as set forth in 37 CFR 1.76 and thus can not be considered to be a "continuing application".

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites the limitation wherein "a series of shifter housings (are) moveable with respect to the fixed axle cams to rotatable shift the drive body with respect to the drive ring and change the relationship between the input and output pawls". And furthermore, the specification further describes that the housings are connected to the housing bridges 99a and 99b to transmit power from the housing 38a to 38c. However, it is not clear exactly how the bridges 99a and

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99b are formed to act as a linking device in transmitting power. Are they designed to transmit power in a sequential manner from 38a to 38c, or in an instantaneous transmission wherein all of the housings 38a to 38c acts in unison?

Also, claim 9 recites the limitation wherein the torque transmission ratio is variable within a range of from 1:1 to 1:4.3. Such range appears to be larger than the previous patent which present invention modifies because of the “need to provide an even more efficient and greater variation in the torque transmission ratio range” as described on page 2, second paragraph in the present invention. However, the specification fails to expound exactly on how such increase of ratio range is achieved by the modification of the US Patent no. 5,971,877. It appears that the plurality of cams 40a-40c are eccentrically located 180 degrees apart from each other. Is this cams setting a major contribution to the increase in the range of ratio? If it is, how does the cams location relative to one another contribute to the increase? It appears that the increase in the range of ratio is achieved by the increase in the offset of shifter housing 38, drive body 42, and pawls 18, 22 as described on page 8 lines 15-17 of present invention. And such disclosure is described in the US Patent no. 5,971,877.

Lastly, claim 10 recites the limitation “the series of shifter housings and axle cams subsets” in line 4. It is not clear what is the “series of ...subsets”. The specification does not provide adequate explanation as to what are the series of subsets.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "an endless chain connection" in line 3. Such limitation is incorrect because the drawing shows limited number of chain connections.

Claim 1 recites the limitation "the fixed axle cams" in line 13. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the drive ring" in line 15. It is unclear as to what the drive ring refers to, the input drive ring or the output drive ring.

Claim 3 recites the limitation "the shifter collar" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the input drive body" in line 3. There is insufficient antecedent basis for this limitation in the claim.

In claim 8, the torque transmission ratio being enlarged exponentially appears to be incorrect.

Claim Objections

5. Claims 1 and 7 are objected to because of the following informalities: In claim 1, line 8, "the" should be deleted; in line 14, "rotatable shift" should be corrected; lines 16 and 17, "housing" and "cam", respectively should be changed to -- housings -- and -- cams -- respectively; in claim 17, line 2, "ration" should be -- ratio --. Appropriate correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunter, Jr. et al., U.S. Patent 5,971,877.

(Note: This rejection is provided with the assumption that the cams transmit power instantaneously rather than sequentially and the cams being 180 degrees has no effect on the increase in the torque transmission ratio range.)

Hunter, Jr. clearly shows, in Figs. 1-6, a power transmission system comprising every element recited in claims 1-10 except a series of housings and cams wherein each housing and cam in series is disposed 180 degrees apart from each other.

It would have been obvious to modify the one cam power transmission system as disclosed by Hunter Jr. et al. with the multiple cams set at 180 degrees apart from each other, since applicant has not disclosed that having the multiple cams placed at this specific angle solves any stated problem or is for any particular purpose and it appears that the cam power transmission would perform equally well with any reasonable number of cams placed at any reasonable angle to each other.

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cam operated power transmission devices.

Cole, U.S. Patent 1,279,271

Sleeper, U.S. Patent 1,626,701

Tompkins, U.S. Patent 3,956,944

Takamiya et al., U.S. Patent 4,697,469

Kozakae et al., U.S. Patent 4,916,974

Trammell, Jr., U.S. Patent 5,415,422


Mills, U.S. Patent 5,454,766

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chong H. Kim whose telephone number is (703) 305-0922. The examiner can normally be reached on Tuesday - Friday; 8:00 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on (703) 308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

chk
November 23, 2004


CHONG H. KIM
PRIMARY EXAMINER